Summary

This *Revised Draft Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement* (HSW EIS) covers three primary aspects of waste management at Hanford – waste treatment, storage, and disposal. It also addresses four kinds of solid waste – low-level waste (LLW), mixed (radioactive and chemically hazardous) low-level waste (MLLW), transuranic (TRU) waste, and immobilized low-activity waste (ILAW). It fundamentally asks the question: how should we manage the waste we have now and will have in the future? This EIS analyzes the impacts of the LLW, MLLW, TRU waste, and ILAW we currently have in storage, will generate, or expect to receive at Hanford. The HSW EIS is intended to help us determine what specific facilities we will continue to use, modify, or construct to treat, store, and dispose of these wastes (Figure S.1). Because radioactive and chemically hazardous waste management is a complex, technical, and difficult subject, we have made every effort to minimize the use of acronyms (making an exception for our four waste types listed above), use more commonly understood words, and provide the "big picture" in this summary. An acronym list, glossary of terms, and conversions for units of measure are provided in a readers guide in Volume 1 of this EIS.

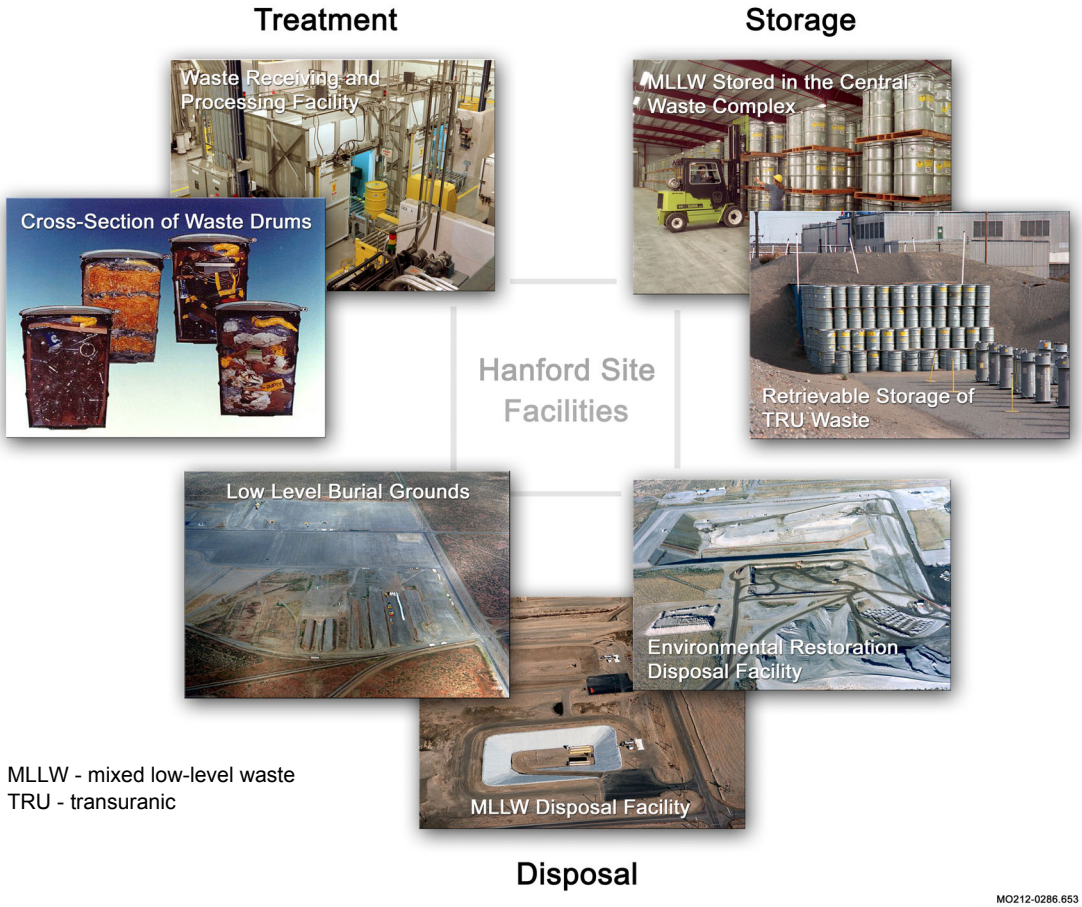

Figure S.1. Hanford Site Treatment, Storage, and Disposal Facilities

We have a number of reasons for preparing this HSW EIS. Foremost is our need to treat and dispose of the waste we are generating from ongoing Hanford cleanup operations, including retrieval of some of our own buried waste. We also support cleanup and early closure of other DOE sites across the country. Just as we were during the days of nuclear weapons production, Hanford is connected to and dependent on other sites.

For example, Hanford will send its high-level waste (HLW) and spent nuclear fuel (SNF) to a national geologic repository, which has been approved by Congress for development at Yucca Mountain in Nevada. In addition, we are now sending our TRU waste to the Waste Isolation Pilot Plant in New Mexico and have sent all of our usable uranium to the Portsmouth Site in Ohio. Hanford has long received LLW, MLLW, and TRU waste from offsite sources. The *Waste Management Programmatic Environmental Impact Statement* (WM PEIS) Record of Decision issued in February 2000 designated Hanford as one of the disposal sites for LLW and MLLW from around the DOE complex. We are currently accepting LLW from various DOE sites and MLLW from the U.S. Navy. Hanford is also receiving TRU waste from "small-quantity" sites for certification and eventual transport to the Waste Isolation Pilot Plant. This HSW EIS considers waste volumes from "Hanford Only" waste and two additional offsite waste volumes. It analyzes the potential environmental impacts associated with various alternatives for storing and disposing of both existing and offsite waste at Hanford.

Solid radioactive waste activities at Hanford have been evaluated in a number of previous Hanford National Environmental Policy Act (NEPA) documents. This HSW EIS updates the evaluations of a number of waste management options, including whether to build a new facility to treat waste or modify an existing structure. We also evaluate alternative sizes and designs of disposal facilities, including whether to use lined or unlined trenches. In addition, if multi-use disposal facilities are operationally and environmentally desirable, we considered alternative locations for such facilities. We have used the detailed analysis performed within this HSW EIS combined with previously performed analyses from other NEPA documentation, Comprehensive Environmental, Response, Compensation and Liability Act (CERCLA) decision documents, and other DOE sources to show how the HSW EIS alternatives fit into the overall Hanford cleanup.

While we understand some readers wanted the more detailed discussions found in other documents, we believe that the readability of this document is enhanced by not repeating all of these discussions here. We provided hard copies, web links, compact disks, etc. for readers interested in the other analyses referred to or incorporated by reference in this HSW EIS. Material incorporated by reference is briefly summarized. All references cited in this EIS are available in the DOE public reading rooms. If you are having difficulty obtaining a specific reference, please contact our HSW EIS document manager (identified on the cover sheet) for assistance. We appreciate your taking the time to learn about the important issues addressed by this document and helping us make the best decisions we can on waste management at Hanford.

S.1 Purpose and Need for Agency Action

We need to provide capabilities to continue, or modify, the way we treat, store, and/or dispose of existing and anticipated quantities of solid LLW, MLLW, TRU waste, ILAW, and melters at the Hanford